

In the Claims:

1. An adsorption system for the separation of a more readily adsorbable component of a feed fluid mixture containing said component and a less readily adsorbable component, having at least one adsorption vessel containing a bed of adsorbent material capable of selectively absorbing the more readily adsorbable component of said feed fluid mixture, said vessel having a first vessel opening, a second vessel opening at the opposite end and having an inner wall; a deflector funnel having a first funnel opening at one end, a second funnel opening at its opposite end with the second opening larger than the first opening, said first funnel opening extending to form a tapered neck terminating at the second funnel opening, said first funnel opening being juxtaposed one of the vessel openings with the tapered segment being juxtaposed the inner vessel wall adjacent to said vessel opening to provide a channel between the funnel and the inner vessel wall; a perforated cap section disposed to cap the second funnel opening, and said funnel/cap arrangement adapted for providing an effectively uniform distribution of a fluid feed to the adsorbent bed.

2. The adsorption system of claim 1 wherein the perforated cap is a circular cap and has a center area defined as the radial area of between about 70% and about 95% of the radius measured from its center and a circumferential area being the remaining area.

3. The adsorption system of claim 2 wherein said center area has a porosity of less than about 10% and said circumferential area has a porosity of more than about 20%.

4. The adsorption system of claim 2 wherein said center area has a porosity of between 0.05% and about 10%.

5. The adsorption system of claim 2 wherein said circumferential area has a porosity of between about 20% and about 80%.

6. The adsorption system of claim 1 wherein a perforated flow extender component is added and disposed juxtaposed to the inner wall of the vessel abutting the deflector at its widest rim.

7. The adsorption system of claim 6 wherein the perforated flow extender component has at least a side wall with a porosity of between about 0.05% and about 10%.

8. The adsorption system of claim 7 wherein the perforated flow extender component has its widest rim with a porosity of between about 20% and about 80%.

9. The adsorption system of claim 6 wherein said center area of the cap has a porosity of less than about 10% and said circumferential area of the cap has a porosity of more than about 20%.

10. The adsorption system of claim 1 wherein the perforated cap and deflector funnel are supported by a bed of balls.

11. The adsorption system of claim 6 wherein the perforated cap, deflector funnel and extender component are supported by a bed of balls.

12. An adsorption system for the separation of a more readily adsorbable component of a feed fluid mixture containing said component and a less readily adsorbable component, having at least one adsorption vessel containing a bed of adsorbent material capable of selectively absorbing the more readily adsorbable component of said fluid gas mixture, said vessel having a first vessel opening, a second vessel opening at the opposite end and having an inner wall; a distribution funnel having an inner wall spaced-apart from an outer wall to provide a fluid channel therebetween and having a first funnel opening at one end and a second funnel opening at its opposite end with the second opening larger than the first opening, the spaced walls having a perforated end at the second funnel opening and an opening end at the first funnel opening so that the spaced-apart walls provides a fluid channel in which the fluid flows from the funnel open end through the perforated funnel end; said first funnel opening extending to form a tapered neck segment terminating at the second funnel opening, said first funnel opening being juxtaposed one of the vessel openings with the tapered segment being adjacent to the vessel inner wall a perforated cap section disposed to cap the second

funnel opening, and said funnel/cap arrangement adapted for providing an effective uniform distribution of a fluid feed to the adsorbent bed.

13. The adsorption system of claim 12 wherein the perforated cap is a circular cap and has a center area defined as the radial area of between about 70% and about 95% of the radius measured from its center and a circumferential area being the remaining area.

14. The adsorption system of claim 12 wherein the perforated cap has a porosity of less than about 10% and more than about 0.05%.

15. The adsorption system of claim 13 wherein said center area has a porosity of between about 0.05% and about 10% and said circumferential area has a porosity of between about 20% and about 80%.

16. The adsorption system of claim 12 wherein a perforated flow extender component is added and disposed juxtaposed to the inner wall of the vessel abutting the deflector at its widest rim.

17. The adsorption system of claim 16 wherein the perforated flow extender component has at least a side wall with a porosity of between about 0.05% and about 10%.

18. The adsorption system of claim 17 wherein the perforated flow extender component has its widest rim with a porosity of about 20% and about 80%.

19. The adsorption system of claim 18 wherein the funnel at its widest top rim area has porosity of between about 20% and about 80%.

20. The adsorption system of claim 12 wherein the perforated cap and deflector funnel are support by a bed of balls.